

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A system for washing, disinfecting, or sterilizing an object, the system comprising:

first station adapted and configured to house the object;

holder at the first station, the holder being adapted and configured for supporting the object;

sonicator comprises ultrasonic irrigated probe at the first station and adjacent position taken by the object in the holder and adapted and configured to impact the object in the first station with ultrasonic energy and to provide ultrasonic energy from a point at the first station;

liquid transporter adapted and configured to circulate at the first station and spray around and against the object wash composition, antimicrobial composition comprising peroxycarboxylic acid at 20 to 25 degrees C and a pH of 5 to 7, rinse composition, or to circulate and spray a plurality of these compositions; and

dryer adapted and configured to dry the object.

2-4. (Canceled)

5. (Original) The system of claim 1, wherein the sonicator is adapted and configured to provide ultrasonic energy throughout fluid at the first station.

6. (Original) The system of claim 5, further comprising second sonicator adapted and configured to provide ultrasonic energy from probe outside the first station.

7. (Canceled)

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

8. (Original) The system of claim 6, further comprising holder adapted and configured to support the object adjacent the second sonicator probe.
9. (Original) The system of claim 1, wherein the sonicator is adapted and configured to dislodge soil from the object and the liquid transporter is adapted and configured to remove the soil.
10. (Previously presented) The system of claim 1, wherein the liquid transporter comprises pump and valve adapted and configured to circulate fluid at the first station and around and against the object, to add fluid to the first station, and to remove fluid from the first station.
11. (Previously presented) The system of claim 1, wherein the first station, the sonicator, and the liquid transporter are adapted and configured to apply to the object the wash composition and ultrasonic energy.
12. (Original) The system of claim 11, wherein the sonicator is adapted and configured to provide ultrasonic energy from point within the first station.
13. (Canceled)
14. (Original) The system of claim 11, wherein the sonicator applies ultrasonic energy throughout the wash composition.

15-17. (Canceled)

18. (Original) The system of claim 1, wherein the liquid transporter comprises sprayer adapted and configured to apply to the object the antimicrobial composition, the rinse composition, or a plurality of these compositions.

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

19. (Original) The system of claim 18, wherein the first station comprises spray chamber.

20. (Original) The system of claim 1, wherein the liquid transporter is adapted and configured to sequentially circulate the wash composition, the antimicrobial composition, and the rinse composition.

21. (Original) The system of claim 1, wherein the liquid transporter is adapted and configured to circulate the wash composition, the antimicrobial composition, first rinse composition, second rinse composition, or to circulate a plurality of these compositions.

22. (Original) The system of claim 21, wherein the liquid transporter is adapted and configured to sequentially circulate, in this order, the wash composition, the first rinse composition, the antimicrobial composition, and the second rinse composition.

23. (Original) The system of claim 1, further comprising dispenser adapted and configured to add wash concentrate, antimicrobial concentrate, rinse concentrate, or to add a plurality of these concentrates.

24. (Original) The system of claim 1, wherein the dryer is adapted and configured to dry the object at the first station.

25. (Original) The system of claim 1, wherein the dryer comprises blower adapted and configured to circulate heated gas at the first station.

26. (Previously presented) The system of claim 1, further comprising injector adapted and configured to add sterilant comprising chlorine dioxide, at the first station.

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

27. (Original) The system of claim 26, wherein the injector comprises pressure release valve adapted and configured to release at the first station gaseous sterilant from pressurized vessel.

28. (Original) The system of claim 26, further comprising vent adapted and configured to evacuate sterilant gas from the first station.

29. (Original) The system of claim 1, further comprising conveyor adapted and configured to transport the object through the system.

30. (Original) The system of claim 1, further comprising emitter adapted and configured to impact the object with microwave or light energy.

31. (Previously Presented) The system of claim 1, further comprising second station, wherein:

the first station comprises the sonicator and is adapted and configured to circulate at the first station and spray around and against the object the wash composition, the antimicrobial composition, the rinse composition, or a plurality of these compositions; and

the second station is adapted and configured to circulate at the second station and spray around and against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions; the second station comprises the dryer; or a combination thereof.

32. (Original) The system of claim 31, wherein the liquid transport system comprises sprayer at the second station and adapted and configured to apply to the object the antimicrobial composition, the rinse composition, or a plurality of these compositions.

33. (Original) The system of claim 32, wherein the second station comprises spray chamber.

34-35. (Canceled)

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

36. (Previously Presented) The system of claim 31, wherein the second station is adapted and configured to circulate around and spray against the object the rinse composition.

37. (Previously Presented) The system of claim 36, wherein the first station is adapted and configured to circulate around and spray against the object the wash composition, the antimicrobial composition, and first rinse composition; and the second station is adapted and configured to circulate around and spray against the object second rinse composition.

38. (Previously Presented) The system of claim 31, wherein the second station is adapted and configured to circulate around and spray against the object the antimicrobial composition and the rinse composition.

39. (Previously Presented) The system of claim 38, wherein the first station is adapted and configured to circulate around and spray against the object the wash composition and first rinse composition; and the second station is adapted and configured to circulate around and spray against the object the antimicrobial composition and second rinse composition.

40. (Original) The system of claim 31, wherein the second station comprises the dryer.

41. (Original) The system of claim 31, further comprising injector adapted and configured to add sterilant at the second station.

42. (Previously Presented) The system of claim 31, further comprising third station, wherein:

the first station comprises the sonicator and is adapted and configured to circulate at the first station and spray around and against the object the wash composition, the antimicrobial composition, or a plurality of these compositions;

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

the second station is adapted and configured to circulate at the second station and spray around and against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions; and

the third station is adapted and configured to circulate at the third station and spray around and against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions; the third station comprises the dryer; or a combination thereof.

43. (Original) The system of claim 42, wherein the third station comprises the dryer.

44. (Original) The system of claim 43, further comprising injector adapted and configured to add sterilant at the third station.

45. (Previously Presented) The system of claim 42, wherein the third station is adapted and configured to circulate around and spray against the object the rinse composition.

46. (Original) The system of claim 45, wherein the liquid transport system comprises sprayer at the third station and adapted and configured to apply the rinse composition to the object.

47. (Original) The system of claim 46, wherein the third station comprises spray chamber.

48-49. (Canceled)

50. (Previously Presented) The system of claim 42, wherein:
the first station comprises the sonicator and is adapted and configured to circulate around and spray against the object the wash composition, first rinse composition and the antimicrobial composition; and

the second station is adapted and configured to circulate around and spray against the object second rinse composition.

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

51. (Previously Presented) The system of claim 42, wherein:
the first station comprises the sonicator and is adapted and configured to circulate around
and spray against the object the wash composition and first rinse composition; and
the second station is adapted and configured to circulate around and spray against the
object the antimicrobial composition and second rinse composition.

52. (Previously Presented) The system of claim 42, wherein:
the first station comprises the sonicator and is adapted and configured to circulate around
and spray against the object the wash composition; and
the second station is adapted and configured to circulate around and spray against the
object first rinse composition, the antimicrobial composition, and second rinse composition.

53. (Previously Presented) The system of claim 42, wherein:
the first station comprises the sonicator and is adapted and configured to circulate around
and spray against the object the wash composition and first rinse composition;
the second station is adapted and configured to circulate around and spray against the
object the antimicrobial composition; and
the third station is adapted and configured to circulate around and spray against the object
second rinse composition.

54. (Previously Presented) The system of claim 42, wherein:
the first station comprises the sonicator and is adapted and configured to circulate around
and spray against the object the wash composition;
the second station is adapted and configured to circulate around and spray against the
object first rinse composition and the antimicrobial composition; and
the third station is adapted and configured to circulate around and spray against the object
second rinse composition.

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

55. (Previously Presented) The system of claim 42, further comprising fourth station, wherein:

the first station comprises the sonicator and is adapted and configured to circulate at the first station and around and spray against the object the wash composition, the antimicrobial composition, or a plurality of these compositions;

the second station is adapted and configured to circulate at the second station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions;

the third station is adapted and configured to circulate at the third station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions; and

the fourth station is adapted and configured to circulate at the fourth station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions; the fourth station comprises the dryer; or a combination thereof.

56. (Original) The system of claim 55, wherein the fourth station comprises the dryer.

57. (Original) The system of claim 56, further comprising injector adapted and configured to add sterilant at the fourth station.

58. (Previously Presented) The system of claim 55, wherein the fourth station is adapted and configured to circulate around and spray against the object the rinse composition.

59. (Original) The system of claim 58, wherein the liquid transport system comprises sprayer in the fourth station and adapted and configured to apply the rinse composition to the object.

60. (Original) The system of claim 59, wherein the fourth station comprises spray chamber.

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

61-62. (Canceled)

63. (Previously Presented) The system of claim 55, wherein:
- the first station comprises the sonicator and is adapted and configured to circulate around and spray against the object the wash composition;
- the second station is adapted and configured to circulate around and spray against the object the antimicrobial composition and first rinse composition; and
- the third station is adapted and configured to circulate around and spray against the object second rinse composition.

64. (Previously Presented) The system of claim 55, wherein:
- the first station comprises the sonicator and is adapted and configured to circulate around and spray against the object the wash composition and first rinse composition;
- the second station is adapted and configured to circulate around and spray against the object the antimicrobial composition;
- the third station is adapted and configured to circulate around and spray against the object second rinse composition.

65. (Previously Presented) The system of claim 55, wherein:
- the first station comprises the sonicator and is adapted and configured to circulate around and spray against the object the wash composition;
- the second station is adapted and configured to circulate around and spray against the object first rinse composition; and
- the third station is adapted and configured to circulate around and spray against the object the antimicrobial composition and second rinse composition.

66. (Previously Presented) The system of claim 55, wherein:
- the first station comprises the sonicator and is adapted and configured to circulate around and spray against the object the wash composition;

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

the second station is adapted and configured to circulate around and spray against the object first rinse composition;

the third station is adapted and configured to circulate around and spray against the object the antimicrobial composition; and

the fourth station is adapted and configured to circulate around and spray against the object second rinse composition and the fourth station comprises the dryer.

67. (Previously Presented) The system of claim 55, further comprising fifth station, wherein:

the first station comprises the sonicator and is adapted and configured to circulate at the first station and around and spray against the object the wash composition, the antimicrobial composition, or a plurality of these compositions;

the second station is adapted and configured to circulate at the second station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions;

the third station is adapted and configured to circulate at the third station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions;

the fourth station is adapted and configured to circulate at the fourth station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions;

the fifth station is adapted and configured to circulate at the fifth station and around and spray against the object the rinse composition, the fifth station comprises the dryer, or a combination thereof.

68. (Original) The system of claim 67, wherein the fifth station comprises the dryer.

69. (Original) The system of claim 68, further comprising injector adapted and configured to add sterilant at the fifth station.

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

70. (Previously Presented) The system of claim 67, wherein the fifth station is adapted and configured to circulate around and spray against the object the rinse composition.

71. (Original) The system of claim 70, wherein the liquid transport system comprises sprayer in the fifth station and adapted and configured to apply the rinse composition to the object.

72. (Original) The system of claim 71, wherein the fifth station comprises spray chamber.

73-74. (Canceled)

75. (Original) The system of claim 67, wherein:
the first station comprises the sonicator and is adapted and configured to circulate the wash composition;
the second station is adapted and configured to circulate first rinse composition;
the third station is adapted and configured to circulate the antimicrobial composition; and
the fourth station is adapted and configured to circulate second rinse composition.

76. (Previously Presented) The system of claim 67, further comprising sixth station, wherein:

the first station comprises the sonicator and is adapted and configured to circulate at the first station and around and spray against the object the wash composition, the antimicrobial composition, or a plurality of these compositions;

the second station is adapted and configured to circulate at the second station and around and against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions;

the third station is adapted and configured to circulate at the third station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions;

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

the fourth station is adapted and configured to circulate at the fourth station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions;

the fifth station is adapted and configured to circulate at the fifth station and around and spray against the object the rinse composition, the fifth station comprises the dryer, the fifth station comprises the apparatus to add gaseous sterilant, or a combination thereof; and

the sixth station comprises the dryer, the sixth station comprises the apparatus to add gaseous sterilant, or a combination thereof.

77. (Currently Amended) A system for washing, disinfecting, or sterilizing an object, the system comprising:

sonicator comprises ultrasonic irrigated probe at the first station and adjacent position taken by the object in the holder and adapted and configured to impact the object in the first station with ultrasonic energy and to provide ultrasonic energy from a point at the first station;

liquid transporter adapted and configured to circulate around and spray against the object wash composition, antimicrobial composition comprising peroxyacrylic acid at a temperature of 20 to 25 degrees C and a pH of about 5 to 7, and rinse composition; and

dryer adapted and configured to dry the object in the presence of sterilant comprising chlorine dioxide.

78. (Currently Amended) A system for washing, disinfecting, or sterilizing object, the system comprising:

first station and second station;
holder at the first station, the holder being adapted and configured for supporting the object;

sonicator comprises ultrasonic irrigated probe at the first station and adjacent position taken by the object in the holder and adapted and configured to impact the object in the first station with ultrasonic energy and to provide ultrasonic energy from a point at the first station;

liquid transporter adapted and configured to circulate at the first station and around and spray against the object wash composition, antimicrobial composition comprising

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

peroxycarboxylic acid at a temperature of 20 to 25 degrees C and a pH of about 5 to 7, rinse composition, or plurality of these compositions; and

dryer adapted and configured to dry the object in the second station in the presence of sterilant comprising chlorine dioxide.

79. (Currently Amended) A system for washing, disinfecting, or sterilizing an object, the system comprising:

first station, second station, and third station;

holder at the first station, the holder being adapted and configured for supporting the object;

sonicator comprises ultrasonic irrigated probe at the first station and adjacent position taken by the object in the holder and adapted and configured to impact the object in the first station with ultrasonic energy and to provide ultrasonic energy from a point at the first station;

liquid transporter adapted and configured to circulate at the first station and around and spray against the object wash composition, antimicrobial composition comprising peroxycarboxylic acid at a temperature of 20 to 25 degrees C and a pH of about 5 to 7, rinse composition, or a plurality of these compositions; and to circulate at the second station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions; and

dryer adapted and configured to dry the object in the third station in the presence of sterilant comprising chlorine dioxide.

80. (Currently Amended) A system for washing, disinfecting, or sterilizing an object, the system comprising:

first station, second station, third station, and fourth station;

holder at the first station, the holder being adapted and configured for supporting the object, and wherein the sonicator comprises ultrasonic probe at the first station and adjacent position taken by the object in the holder;

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

sonicator comprising irrigated probe adapted and configured to impact the object in the first station with ultrasonic energy and adapted and configured to provide ultrasonic energy from a point at the first station;

liquid transporter adapted and configured to circulate at the first station and around and spray against the object wash composition, antimicrobial composition comprising peroxydicarboxylic acid at a temperature of 20 to 25 degrees C and a pH of about 5 to 7, rinse composition, or a plurality of these compositions; to circulate at the second station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions; and to circulate at the third station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions; and

dryer adapted and configured to dry the object in the fourth station in the presence of sterilant comprising chlorine dioxide.

81. (Currently Amended) A system for washing, disinfecting, or sterilizing an object, the system comprising:

first station, second station, third station, fourth station, and fifth station;
holder at the first station, the holder being adapted and configured for supporting the object, and wherein the sonicator comprises ultrasonic probe at the first station and adjacent position taken by the object in the holder;

sonicator comprising irrigated probe adapted and configured to impact the object in the first station with ultrasonic energy and adapted and configured to provide ultrasonic energy from a point at the first station;

liquid transporter adapted and configured to circulate at the first station and around and spray against the object wash composition, antimicrobial composition comprising peroxydicarboxylic acid at a temperature of 20 to 25 degrees C and a pH of about 5 to 7, rinse composition, or plurality of these compositions; to circulate at the second station and around and spray against the object the antimicrobial composition, the rinse composition, or plurality of these compositions; to circulate at the third station and around and spray against the object the antimicrobial composition, the rinse composition, or plurality of these compositions; and to

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

circulate at the fourth station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions; and

dryer adapted and configured to dry the object at the fifth station in the presence of sterilant comprising chlorine dioxide.

82. (Currently Amended) A system for washing, disinfecting, or sterilizing an object, the system comprising:

first station, second station, third station, fourth station, fifth station, and sixth station; holder at the first station, the holder being adapted and configured for supporting the object;

sonicator comprises ultrasonic irrigated probe at the first station and adjacent position taken by the object in the holder and adapted and configured to impact the object in the first station with ultrasonic energy and to provide ultrasonic energy from a point at the first station;

liquid transporter adapted and configured to circulate at the first station and around and spray against the object wash composition, antimicrobial composition comprising peroxydicarboxylic acid at a temperature of 20 to 25 degrees C and a pH of about 5 to 7, rinse composition, or plurality of these compositions; to circulate at the second station and around and spray against the object the antimicrobial composition, the rinse composition, or plurality of these compositions; to circulate at the third station and around and spray against the object the antimicrobial composition, the rinse composition, or plurality of these compositions; and to circulate at the fourth station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions;

dryer adapted and configured to dry the object at the fifth station; and

apparatus adapted and configured to add to the sixth station gaseous sterilant comprising chlorine dioxide.

83. (Currently Amended) A system for washing, disinfecting, or sterilizing an object, the system comprising:

first station, second station, third station, fourth station, fifth station, and sixth station;

S/N 09/844,965
Amendment dated September 23, 2005
Reply to Office Action of June 23, 2005

holder at the first station, the holder being adapted and configured for supporting the object;

sonicator comprises ultrasonic irrigated probe at the first station and adjacent position taken by the object in the holder and adapted and configured to impact the object in the first station with ultrasonic energy and to provide ultrasonic energy from a point at the first station;

liquid transporter adapted and configured to circulate at the first station and around and spray against the object wash composition, antimicrobial composition comprising peroxydicarboxylic acid at a temperature of 20 to 25 degrees C and a pH of about 5 to 7, rinse composition, or plurality of these compositions; to circulate at the second station and around and spray against the object the antimicrobial composition, the rinse composition, or plurality of these compositions; to circulate at the third station and around and spray against the object the antimicrobial composition, the rinse composition, or plurality of these compositions; and to circulate at the fourth station and around and spray against the object the antimicrobial composition, the rinse composition, or a plurality of these compositions;

apparatus adapted and configured to add to the fifth station gaseous sterilant comprising chlorine dioxide; and

dryer adapted and configured to dry the object at the sixth station.

84-118. (Cancelled)